



Compressed Earth Block (CEB)

Why Compressed Earth Block???

- rot/mold resistant
- termite resistant
- fire resistant
- superior thermal performance & stabilization of indoor temperature/humidity levels
- healthy indoor air quality
- low carbon footprint
- load bearing construction
- beautiful natural aesthetics
- masonry construction – accessible to anyone skilled in masonry

What is it and How Does it Work???

Compressed earth block (CEB), specifically stabilized CEB, is a method of combining a clay soil with aggregates and a small amount of Portland cement or lime (5-10%) into a mix which is then compressed into a block/brick in either a manual or a hydraulic press. The size of the blocks vary and can be made into the desired size. Blocks can also be customized as to accommodate vertical rebar or vertical conduit for electrical wiring and plumbing.

The blocks are then laid just as any other traditional masonry material. This way, CEB lends itself to anyone who is skilled in traditional masonry methods.

In areas with high seismic or hurricane loads, reinforcing is required. The CEB walls must sit on top of a fully reinforced footing & stem wall & topped with a bond beam.

What's the Cost & Value of CEB???

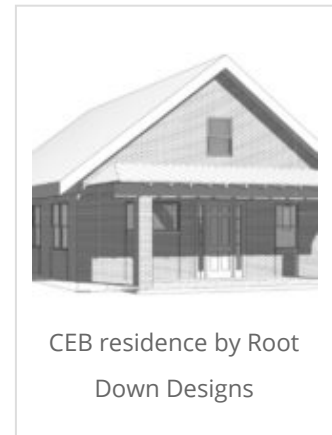
The answer depends on a number of factors: is this an owner-build or contractor-build, how simple or complex is the design, where are the materials coming from? Is the client manufacturing the CEB blocks or are they purchasing them from a supplier?

Though these factors will play into the cost, we are finding that CEB construction will cost roughly the same, perhaps slightly more, than conventional construction methods. An owner-build scenario will save approximately 60% on the cost of construction.

Although the up-front costs may be slightly higher than with conventional, the long-term lifecycle cost of the building & its performance will be much lower due to low energy/utility costs and very minimal maintenance costs.

Currently, there are few comparables for banks to draw upon, but financial institutions and lenders are starting to accept CEB & Adobe as 'solid masonry' construction and are assessing their value accordingly.

Root Down Designs is working with building departments in both SC & NC to [design & permit modern CEB projects](#).



CEB residence by Root
Down Designs